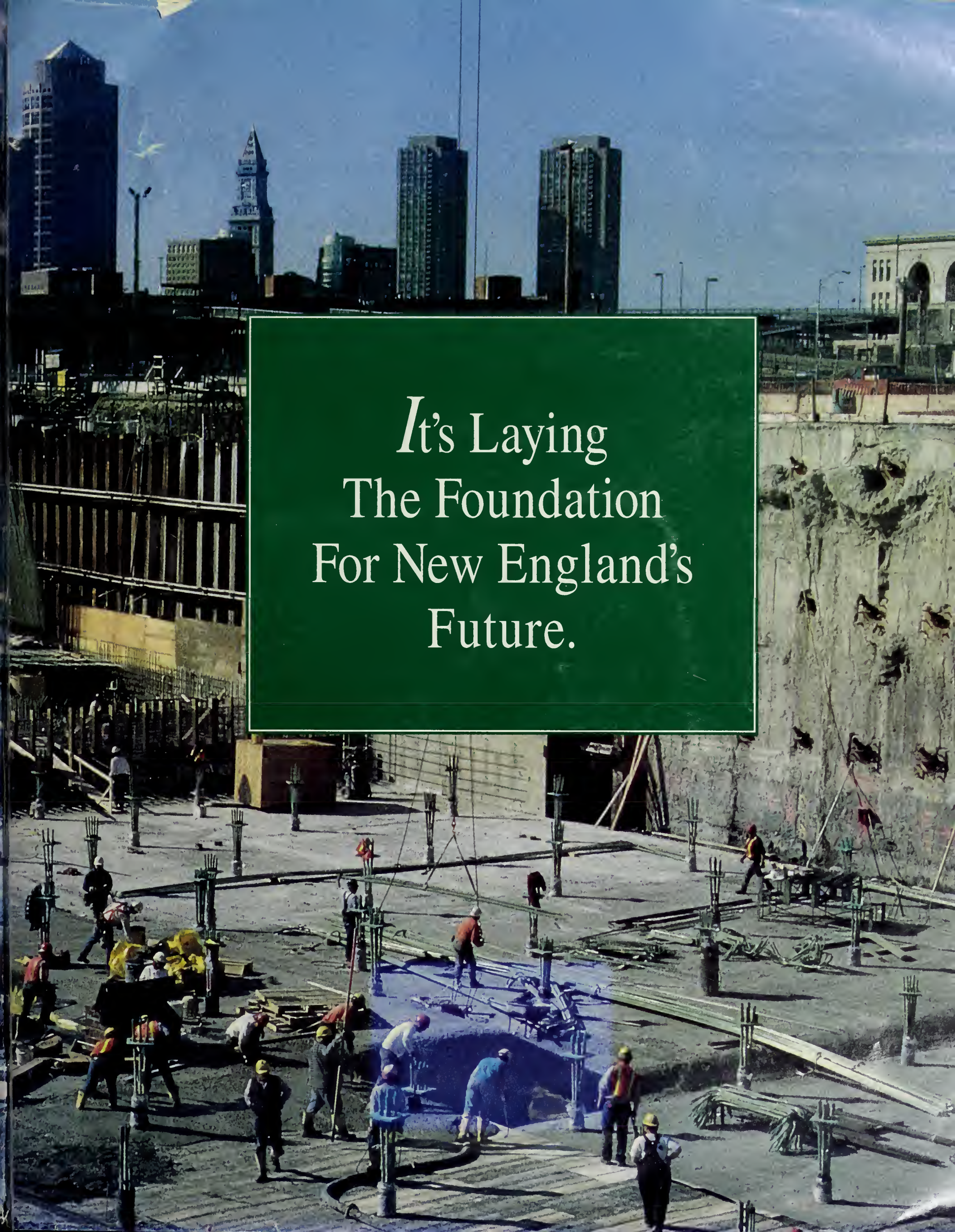
The Central Artery/ Tunnel Project Is Not Just Building A Highway In Boston.


It's Laying
The Foundation
For New England's
Future.

By the turn of the century, Boston will be a cleaner, greener city. A better place to live and work. A magnet for tourists and conventions. A hub of international trading for all of New England.

And we'll get there with the help of the new Central Artery and Third Harbor Tunnel Project.

Getting us out of a jam. *Running through the heart of downtown Boston, the Central Artery was designed in the 1950s to carry 75,000 cars each day. But some 190,000 cars now clog it daily. Logan Airport, the tenth busiest in the country, is only one mile from downtown Boston. But the traffic makes it feel more like 50.*

The congestion is so bad, it threatens to strangle the region. Without radical improvements, traffic delays here will grow to 14–15 hours a day. And the effect of those delays will be felt throughout New England. With so much of the materials and products of New England businesses being shipped over the Central Artery or through Logan Airport, the region will lose an estimated half billion dollars yearly due to late deliveries, accidents, higher insurance rates and fuel burned by vehicles stuck in traffic. That will be hard on the business community, and it certainly won't help attract any of the new businesses—and new jobs—the region needs.

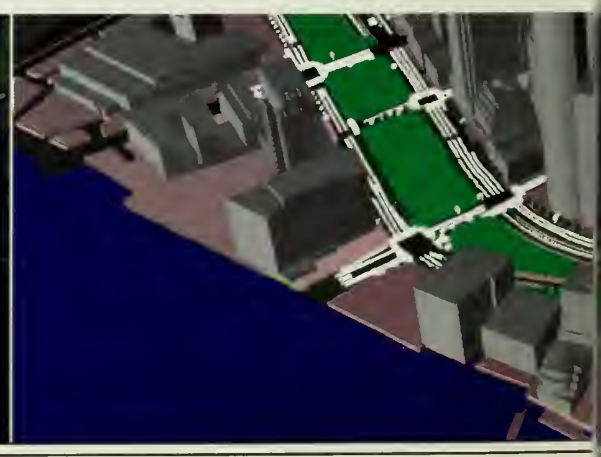
Today, more than 190,000 vehicles a day clog the Central Artery.

A speedy recovery. *The new Central Artery we're building will be an 8–10 lane underground expressway, increasing the flow of traffic through the city. We've already put the tubes that make up the Third Harbor Tunnel into place beneath Boston Harbor, between Logan Airport and South Boston. When it's opened to commercial traffic late next year, it is projected to carry 18,000 vehicles a day directly from South Boston to the airport. The final portion of our Project will be to extend the new artery up and over the Charles River, linking it to I-93, Route 1 (Tobin Bridge), and Storrow Drive.*

Better traffic flow and easier access to Logan Airport will help make shipping more efficient, speed deliveries, reduce air pollution, and lessen the stress levels of commuters. Utility companies that have to move their lines and pipes to accommodate the construction process are taking this opportunity to upgrade them, completing Boston's new, state-of-the-art infrastructure. All told, it will make the whole region more attractive to businesses, and keep it competitive throughout the coming century.

In the meantime, the Project is delivering immediate economic benefits to the region. Right now more than 5,000 people are employed in the planning, design, construction, and procurement of materials for the Central Artery/Tunnel Project. And another 4,000 people have jobs in restaurants, printing companies, delivery services, and other businesses thanks to money being poured into the local economy by the Project.

A better environment all around. *Putting an end to the traffic jams that make you see red will also enable you to see more green. When the*



underground expressway is completed, the old, elevated roadway will be torn down, opening up 27 acres in the heart of downtown Boston that can be developed into parks, playgrounds, new businesses, botanical gardens, and an arboretum. In total, 150 acres of parkland will be created throughout the region.

Since fewer cars will be sitting and idling on the new expressway, we'll all breathe easier because Boston's air will be appreciably cleaner.

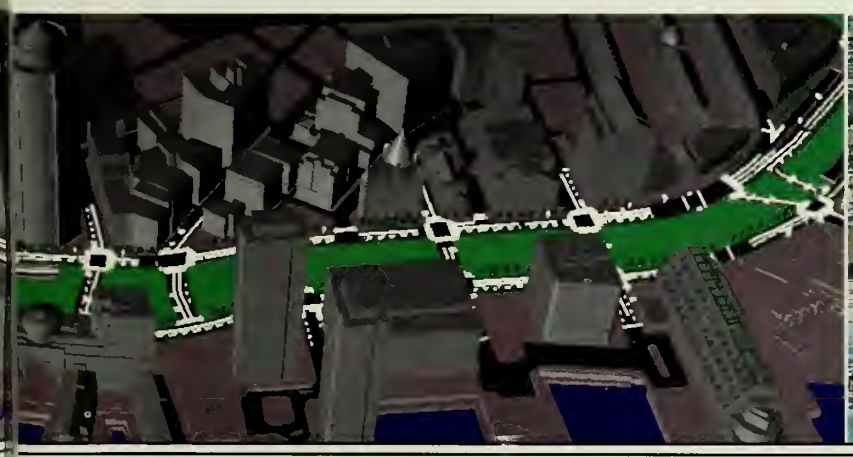
People who live in the city's neighborhoods won't find their streets being used as on and off-ramps to the Artery, or as alternate routes in rush hour. Without that traffic, their neighborhoods will be quieter, safer, and cleaner.

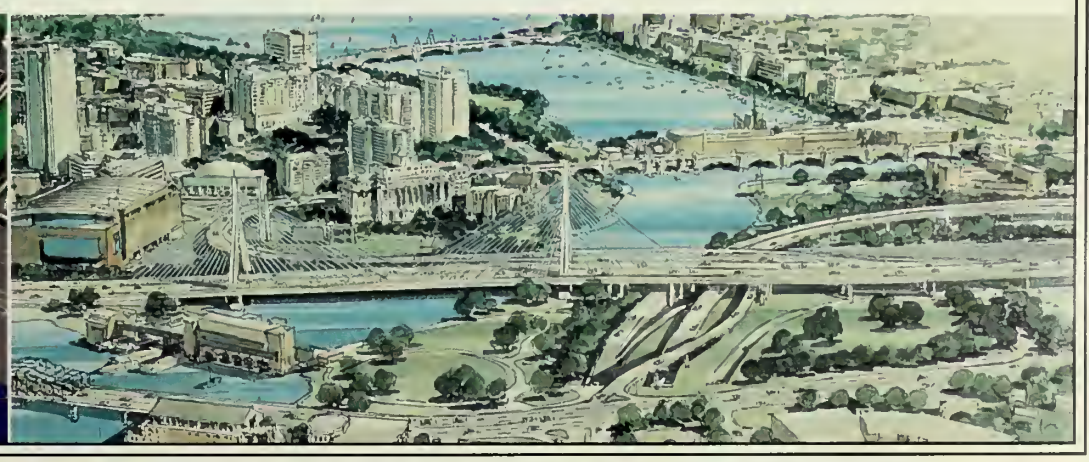
And when Boston is no longer cut in half by the Artery, this walk-able city will be more pedestrian-friendly than ever; and an even more attractive destination for tourists and conventions.

A lot of the dirt being excavated to put the new roadway underground will go to good use. Some of it will be used to cap an old landfill on Spectacle Island (one of the Boston Harbor islands) and transform it from a dump into a beautiful public park; more of it will go to capping landfills in communities around the state, saving millions of dollars for local taxpayers.

As with any construction project in a populated area, there are going to be disruptions and inconveniences. Digging up streets and excavating tunnels is going to be noisy, kick up dust and dirt, and cause occasional traffic problems. But the economic and environmental advantages of the Project promise a much improved quality of life for people in New England for generations to come.

At the peak of construction, almost 15,000 people will be employed as a result of the Central Artery/Tunnel Project.





Work on the Third Harbor Tunnel (lower left) is on schedule for a late 1995 opening. Meanwhile, using sophisticated computer technology (lower middle), engineers, urban designers, environmentalists, traffic planners, and others are able to plan the completion of the Project, when 27 acres of open space will be made available downtown. Having received all the necessary approvals on the plan for the Artery's crossing of the Charles River (lower right), final design will begin this fall.

THE SOUTH STATION STORY

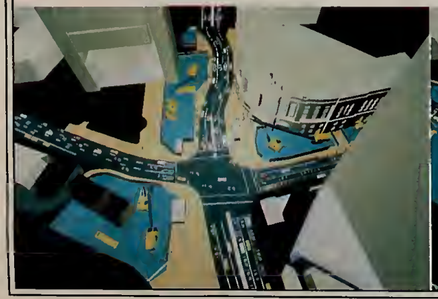
The work being done here is so complex, it's a story unto itself. Almost 80,000 people move through the South Station area every day by bus, on foot, aboard the MBTA's Red Line, AMTRAK, or on commuter rail. So imagine the challenge of trying to keep those people moving while simultaneously relocating utility lines under the streets, rebuilding and expanding the Red Line tunnel and station, digging a tunnel for the new underground Central Artery, and creating yet another tunnel for a new MBTA transitway electric trolley link (for service from South Station to the Fan Pier). Finally, the Central Artery/Tunnel Project is also evaluating the necessary modifications to allow for the future construction of a North/South rail link. And while all this is taking place, every possible precaution will be taken to preserve the historically significant architecture of South Station itself.

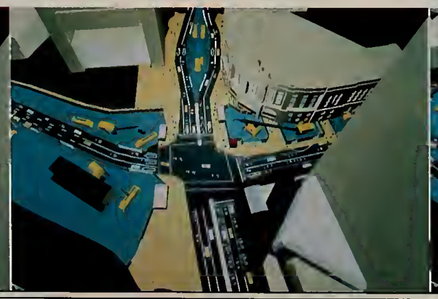
The plot thickens. Why is so much work being undertaken at once? Because years of work and millions of dollars can be saved by doing all the construction simultaneously. Meanwhile, extraordinary steps are required to keep the area fully operational when construction begins in early 1995.

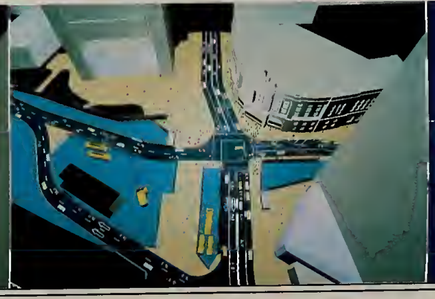
To minimize surface traffic disruptions, the digging is planned so that only one lane of any street is closed at a time. For Red Line passengers, the station is being re-constructed one corner at a time, in order to keep the station accessible. Clean, well-lit walkways with easy-to-read signs will be built to carry pedestrians quickly and safely around construction work. The Red Line and commuter rail lines will continue their regular schedules while a major section of the new underground Central Artery is dug underneath Atlantic Avenue, just below the Red Line track.

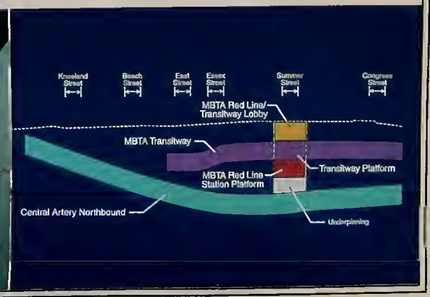
That's a lot of activity. But wait until you see the activity when all of this work is completed and South Station is a world class transportation center for moving people to and through Boston.

Each phase of construction at South Station is being planned to maintain traffic and pedestrian flow through this very busy part of town. For example, in the second drawing of this computer sequence, the old bus station has been moved to give traffic planners flexibility while shifting Atlantic Avenue and the Surface Artery traffic away from construction. At least two lanes of traffic will be maintained in all directions at all times. On the far right is a profile of one part of the construction site.

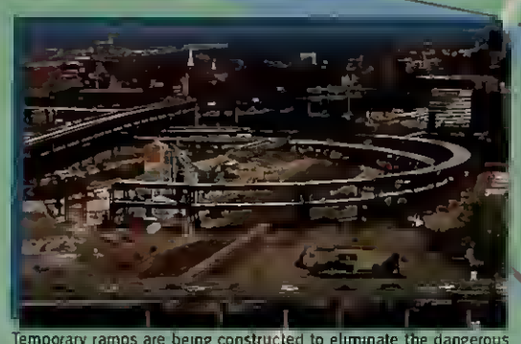








*M*apping The Future of New England.



Temporary ramps are being constructed to eliminate the dangerous intersection of Route 1, Route 93, and Storrow Drive, until the new Charles River Crossing is completed.

CHARLESTOWN

Rte. 1 Interchange

To Tobin Bridge

CHARLES RIVER

SUMNER TUNNEL

CALLAHAN TUNNEL

EAST BOSTON

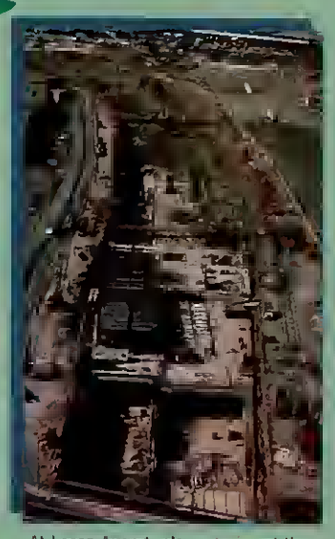
Rte. 1A Interchange

Logan Airport Interchange

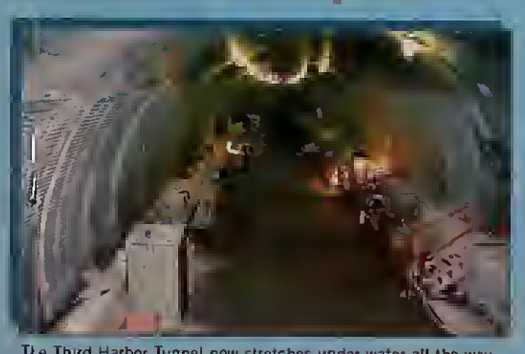
TERMINAL 'A'

North Station

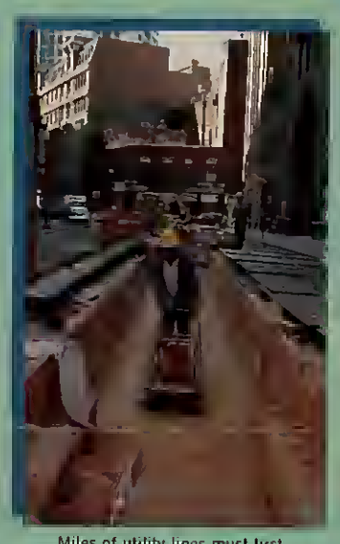
BOSTON INNER HARBOR



At Logan Airport, planes taxi past the roadway that will take airport traffic to and from the Third Harbor Tunnel.



The Third Harbor Tunnel now stretches under water all the way from South Boston to Logan airport.



Miles of utility lines must first be moved away from the path of the new underground expressway before construction can begin.

DOWNTOWN

THIRD HARBOR TUNNEL

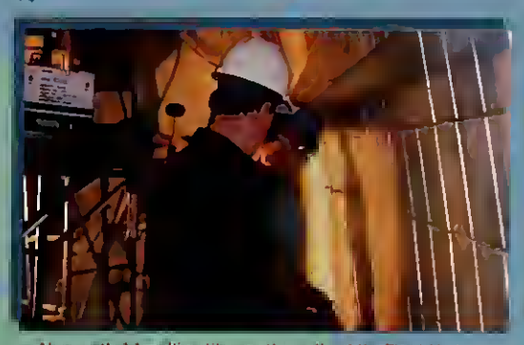
CHINATOWN

South Station

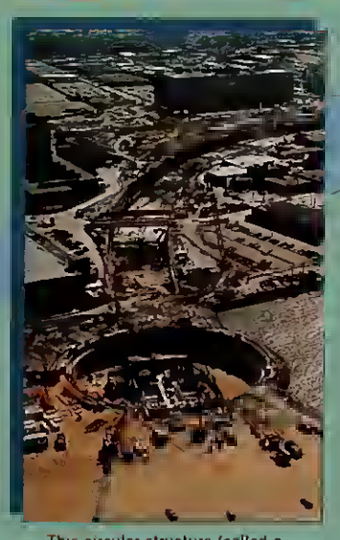
South Bay Interchange

South Boston Interchange

MASS. TURNPIKE (I-90)



Along with 1.1 million tiles on the walls of the Third Harbor Tunnel, ventilation fans, a ceiling, and computer sensors in the road are being installed.



This circular structure (called a cofferdam) is the connecting point between the Third Harbor Tunnel and the underground roadway that will lead to the Massachusetts Turnpike (I-90) and the Central Artery (I-93) near Fort Point Channel.

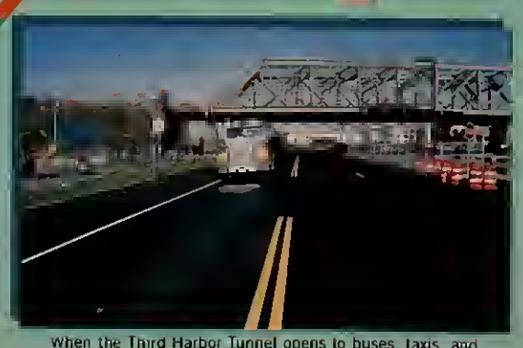
SOUTHEAST EXPRESSWAY (I-93)

SOUTH BOSTON HAUL RD. / BYPASS RD.

SOUTH END

SOUTH BOSTON

Mass. Ave. Interchange



When the Third Harbor Tunnel opens to buses, taxis, and trucks late next year, they will use the South Boston Haul Road/ Bypass Road to avoid residential streets.

Bridge/Viaduct

Surface Roadway

Depressed Roadway

Tunnel

Map by Debra Perugi.

First, the bad news. Despite our best efforts, some delays and inconveniences will become an unfortunate part of our everyday life. For example, although traffic flow will be maintained, streets may have to be realigned or individual lanes shifted around work sites. Parking spaces may have to be relocated to make way for drilling or digging. Now, the good news.

The biggest news is no news. Every possible step is being taken to keep the city open for businesses, residents, and tourists. Work is being scheduled to minimize the irritation of noise and dust for people who live in the area; to avoid blocking building entrances and loading docks during commercial hours; and to prevent interference with the pushcarts at Haymarket or with events at Boston Garden. Pedestrian walkways will be built to ensure that, even at the height of the construction work, you can still stroll through Chinatown, browse the art galleries in the Leather District, and dine at your favorite restaurants in the North End and Waterfront areas.

Some of the first walls of the underground expressway will begin to be built between the North End and the Faneuil Hall/Marketplace area later this summer.

Plugged into the future. Utility relocation work is continuing throughout downtown Boston, where 29 miles of wires, pipes, and cables snake beneath the city's streets. In a major undertaking that involves 31 utility companies, these lines, some more than 100 years old, will be moved out of the path of the digging and into new, specially constructed utility corridors running alongside the new Artery. They'll be easier to get at, maintain, and expand. More important, many of the utility companies will be using this opportunity to upgrade their lines, creating a state-of-the-art infrastructure which will benefit the entire regional economy.

In addition to the traditional method of digging a trench, laying the cable or pipe, and covering the street up again (known as cut and cover), the digging has taken on a decidedly high-tech feel. Some of the work is done using a technique called jack pipe tunneling, in which pits are dug on opposite sides of the street, and lengths of pipe are then pushed underneath the street (jacked) from one pit to the next—without disturbing the surface above.

When pipes smaller than three feet in diameter are being installed, another innovative technique called micro-tunneling is sometimes used. Here, a remote-controlled robotic drill bores a hole from pit to pit while the operator watches from the surface on closed-circuit video monitors.

These techniques are just part of the Central Artery/Tunnel's overall commitment to minimize disruption during construction.

The walls go in, the work goes on. A major milestone for the Project is the construction of the first walls for the underground expressway , which will start this summer. Actually built from the surface down using a technique called slurry wall construction, these walls will hold back the earth from the new roadbed. The slurry technique involves excavating a narrow, deep trench held open by a jello-like mixture of clay and water called bentonite slurry. This allows digging to continue to the desired depth without a wall collapse. Steel cages, which add support to the walls, are lowered

into the slurry-filled trench. Concrete is then poured into the trench, displacing the slurry, and the walls are done. Steel beams and decking will be laid between the walls so that traffic can continue on the elevated roadway while work goes on underground.

Also, later this year, temporary ramps connecting I-93 with Route 1 and the Tobin Bridge will be completed. Instead of Route 1 connecting to Route 93 on the City Square side of the road, it will sweep under and connect to the highway over the MBTA rail yard. This will eliminate the dangerous three-lane weave across Route 93 now required of drivers traveling between Route 1 and Storrow Drive. The old ramps that have cast a shadow over Charlestown's City Square will finally be eliminated.

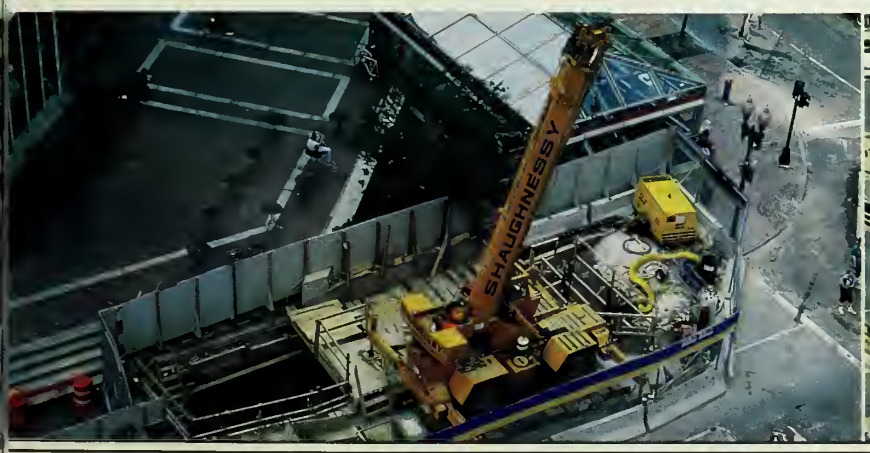
This will also do much to relieve the congestion on that northern stretch of the Central Artery until the new Charles River Crossing can be completed. Aesthetically pleasing, environmentally responsible, and cost conscious in design, the plan for the new Charles River Crossing has been approved by state and federal agencies and final design will begin this fall.

Innovative construction techniques, like this underground boring machine (being lowered into position), help reduce disruptions above ground to traffic, pedestrians, and businesses.

Meanwhile, work continues in the Third Harbor Tunnel as crews install the tiling, lighting, computer sensors, and ventilation systems. And since the new tunnel will help ease legendary traffic jams in the Sumner and Callahan Tunnels, Governor Weld has proposed the new harbor tunnel be named after legendary New England sports figure Ted Williams. When the tunnel opens to commercial traffic next year, it will reduce traffic in the existing tunnels by 6,000 vehicles a day.

At the southern end of the new tunnel, the South Boston Haul Road is already open and keeping an estimated 1,500 trucks off the streets of South Boston daily.

Shown below are examples of how the Central Artery/ Tunnel Project is attempting to minimize construction's impact on everyday life. These include (from left to right): building pedestrian walkways and handicapped ramps; when possible, working during off-hours (and plating over the street during the day to ensure traffic flow); providing safe, well-marked paths for pedestrians and vehicles; and utilizing technology for digging, like this hydromill station, that creates less dirt and noise, as well as reduces truck traffic within a construction site.

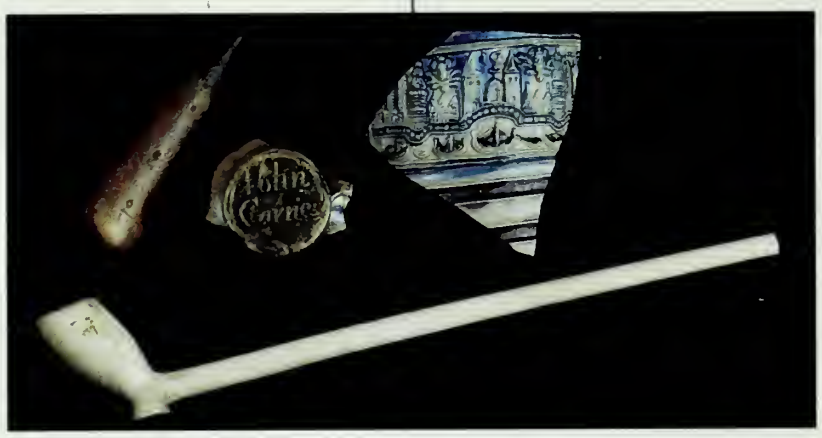


SORTING IT ALL OUT

We dig history. *Before the Central Artery/Tunnel Project digs for Boston's future, the Project's historic resource protection program is digging into Boston's past, helping us learn all we can about the history of our region.*

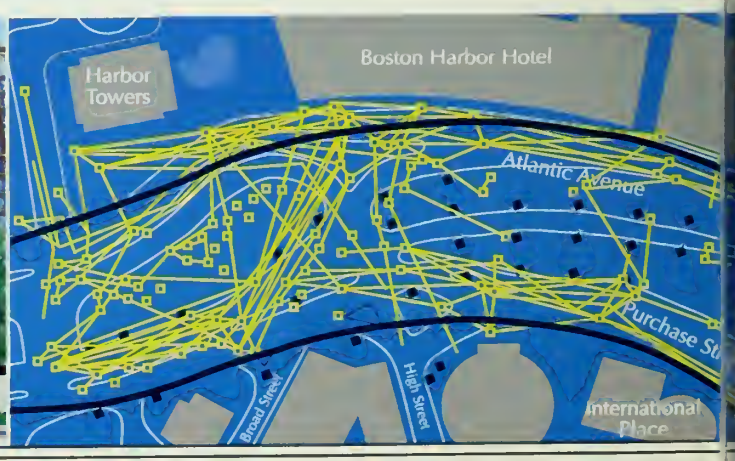
One particularly rich find was made under a parking lot under the elevated Artery in the North End, yielding many interesting artifacts of Colonial life, from tiles to ceramic wig curlers.

Out on Spectacle Island, researchers also unearthed a Native American shell midden — a 1,400-year old dump where remains of meals, broken tools, pottery, spear and arrow points, and other trash were discarded. This discovery will tell us much about the way Native Americans lived in the area.



Before construction could begin, archaeologists were first given the opportunity to unearth new information about Colonial and Native American history.

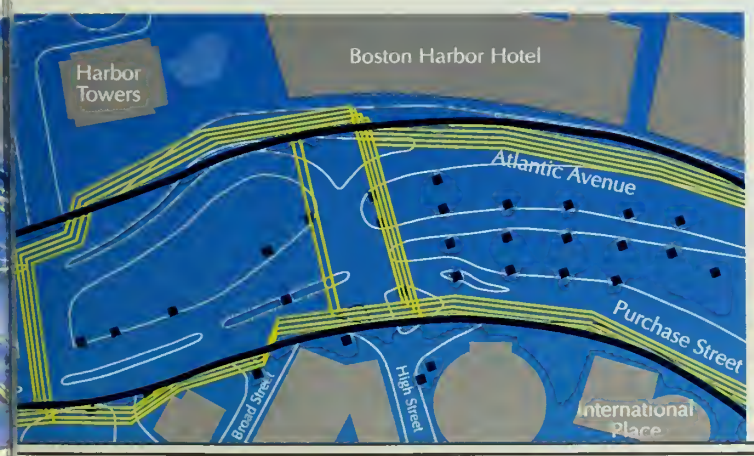
Facts and factoids. Third Harbor Tunnel: *Traffic capacity: 4 lanes (2 each way, doubling existing cross harbor capacity) ☐ Number of giant 325-foot tubes needed to span harbor: 12 ☐ Time it will take to build the tunnel: 4 years; time it will take to travel through the tunnel: less than 10 minutes ☐ Number of average bathrooms that could be finished with the ceramic tiles used to cover the tunnel's walls: 4,600 ☐ If you were to stack the tunnel's 12 tubes vertically, they would stand more than two-and-a-half times as high as the Empire State Building ☐* ***Central Artery:*** *Number of lanes today: 6; number of lanes on new underground artery: 8–10 ☐ Current number of access ramps downtown: 27; Access ramps to/from new underground expressway: 14 ☐ Tons of steel in existing Central Artery: 100,000 (enough to build five Tobin Bridges) ☐ Yards of concrete needed to build the Central Artery/Tunnel Project: 3.8 million cubic yards (enough to build a sidewalk from Boston to San Francisco 3 times) ☐ At its deepest point, the tunnel will be more than 8 stories undergound ☐ You could wrap a one-inch steel bar around the Earth's equator with all the reinforcing steel that this Project will use ☐* ***Traffic:*** *Designed capacity of existing Central Artery: 75,000 vehicles per day ☐ Traffic volume of Central Artery today: 190,000 vehicles per day ☐ Capacity of new underground Central Artery: 250,000 vehicles per day ☐ Current average speed of evening rush hour traffic: 8 mph (northbound) ☐ Projected average speed of evening rush hour traffic on new underground Central Artery: 30 mph ☐ Current traffic volume through Sumner/Callahan Tunnels: 100,000 vehicles per day; Sumner/Callahan traffic in 2010 with addition of Third Harbor Tunnel: 70,000 vehicles per day ☐* ***Related Mass Transit Improvements:*** *Number of new subway and streetcars being added to MBTA's fleet: 200 ☐ Number of new buses to be added: 200 ☐ Number of commuter rail park 'n ride spots being added throughout metro area: 15,000–20,000 ☐* ***Environmental:*** *Acres of open space that will be created on top of new underground artery: 27 ☐ Size of public park that will be created at Spectacle Island: roughly 105 acres ☐ Reduction in overall carbon monoxide levels as a result of improved traffic flow provided by Project: 12% ☐* ***Archeology:*** *Date of artifacts unearthed at Paddy's Alley: 1680–1740 ☐ Likely dates of artifacts from Spectacle Island: 4000 BC–1500 AD ☐* ***Economics:*** *Number of construction workers at peak construction: 5,000 ☐ Total number of people*



employed as a result of the Project at the peak of construction: approximately 14,700 ☐ Annual waste in fuel consumption, late deliveries, and lost personal time in year 2010 if no transportation improvements were made: $530 million ☐ Project funding provided by the Federal Highway Administration: 85%; Project funding provided by the Commonwealth of Massachusetts: 15% ***Geotechnical Science:*** *Amount of excavated material placed to close abandoned dump and create new park on Spectacle Island: 2.7 million cubic yards ☐ Total quantity of material excavated or dredged: 11.9 million cubic yards (enough to fill Foxboro Stadium to the rim 12 times) ☐ Number of soil and ground samples taken: more than 1,600 ☐* ***Smart Highways:*** *Number of closed circuit TV cameras that will monitor Project work zones: approximately 400 ☐ Number of electronic variable message highway signs located on regional highways that will be programmed by the Project operations center: 130 ☐ Number of infrared truck overheight detectors: 30 ☐ Minutes it will take the Smart Highways system to detect, untangle, and clear away traffic mishaps: approximately 15.*

Spectacle Island will receive over 2 million cubic yards of dirt and fill from the Project, turning this former dump into a public park.

Getting through; on the road or on the phone. *We're doing massive work on some of Boston's main roadways. But we're also doing everything in our power to minimize the impact of that work on the traffic that has to go through the city every day. And you can help in several ways, too. Keep an eye (or an ear) on the news for traffic reports, and watch for our message signs on the road for traffic condition updates. If you own or run a business, think about vanpools, carpools, MBTA employee passes, flex-time, and variable work hours. And keep this list handy for easy reference:*



Perhaps the most visible result of the Central Artery/ Tunnel Project will be the removal of the elevated road that has cut off the downtown from the waterfront (far left). Below ground, telephone, gas, sewer, power, steam, electric, and cable lines that criss-cross under the city are being upgraded and placed in specially constructed utility corridors, making them easier to find and repair in the future.

It pays to plan ahead. For the latest word on traffic detours and Project news 24 hours a day, call **CAT-INFO 617-228-4636.**

Help yourself. Get emergency assistance and construction problem resolution 24 hours a day by calling **CAT-HELP 617-228-4357.**

Learn more about the T...The alternate route. Call **617-722-3200** for public transporation information.

For big savings on toll fares on car pools, call the Mass Pike Car Pool Pass Program at **617-248-2833.**

Save time and money getting to Logan Airport...use mass transit or the water shuttle. Dial **1-800-23LOGAN (1-800-235-6426).**

Get out from behind the wheel and get into a car pool or van pool. Call CARAVAN For Commuters, Inc. at **CAR-POOL (617) 227-7665.**

Don't get stuck in a jam. For up-to-the-minute traffic and transit conditions, call SmarTraveler at **617-374-1234.**

OTHER INFORMATION

To contact the Project's Liaison to your community, call **617-342-4556.**

To do business with the Project, call the Procurement Department at **617-342-4520.**

To schedule a briefing or obtain Project information for your business or employees, call the Business Outreach Department at **617-951-6367.**

Cover Photo by Steve Dunwell/Image Bank
Photos by Louis Martin.

CENTRAL ARTERY TUNNEL

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